AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1-32. (Canceled)

33. (New) A method for treating axonal degeneration of the peripheral nervous system of a patient, comprising: administering to the patient a compound of the formula

$$M^1\text{-}AA^2\text{-}AA^1\text{-}CO\text{-}NR_3R_4$$

or a pharmaceutically acceptable salt thereof, wherein

M^1 is Y-O-CO-;

AA^2 is leucine;

AA^1 is selected from the group from the group consisting of leucine, valine, isoleucine, alanine, alpha-aminobutanoic acid, norvaline, and phenylalanine;

R_3 is H;

R_4 is $C_{1\text{-}20}$ alkyl, $C_{1\text{-}20}$ cyclized alkyl, $C_{1\text{-}20}$ alkyl with a phenyl group attached to the $C_{1\text{-}20}$ alkyl, $C_{1\text{-}20}$ cyclized alkyl with an attached phenyl group, $C_{1\text{-}20}$ alkyl with an attached phenyl group monosubstituted with K, $C_{1\text{-}20}$ alkyl with an attached phenyl group disubstituted with K, $C_{1\text{-}20}$ alkyl with an attached phenyl group trisubstituted with K, $C_{1\text{-}20}$ cyclized alkyl with an attached phenyl group monosubstituted with K, $C_{1\text{-}10}$ alkyl with a morpholine [$-N(CH_2CH_2)O$] ring attached through nitrogen to the alkyl, $C_{1\text{-}10}$ alkyl with a piperidine ring attached through nitrogen to the alkyl, $C_{1\text{-}10}$ alkyl with a pyrrolidine ring attached through nitrogen to the alkyl, $C_{1\text{-}20}$ alkyl with an OH group attached to the alkyl, $-CH_2CH_2OCH_2CH_2OH$, $C_{1\text{-}10}$ with an attached 4-pyridyl group, $C_{1\text{-}10}$ with an attached 3-pyridyl group, $C_{1\text{-}10}$ with an attached 2-pyridyl group, $C_{1\text{-}10}$ with an attached cyclohexyl group, $-NH-CH_2CH_2$-(4-hydroxyphenyl), $-NH-CH_2CH_2$-(3-indolyl);

Y is selected from the group consisting of $C_{1\text{-}10}$ alkyl, $C_{1\text{-}10}$ alkyl with an attached phenyl group, and $C_{1\text{-}10}$ alkyl with an attached phenyl group substituted with K; and

K is selected from the group consisting of halogen, $C_{1\text{-}10}$ alkyl, $C_{1\text{-}10}$ perfluoroalkyl, $C_{1\text{-}10}$ alkoxy, phenoxy, NO_2, CN, OH, CO_2H, amino, $C_{1\text{-}10}$ alkylamino, $C_{2\text{-}12}$ dialkylamino, $C_{1\text{-}10}$ acyl, and $C_{1\text{-}10}$ alkoxy-CO-, and $C_{1\text{-}10}$ alkyl-S-, and $-N(CH_2CH_2)_2O$.

34. (New) The method of claim 33, wherein the compound is selected from the group consisting of:

Z-Leu-Nva-CO-NH-CH_2-2-pyridyl,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6F_5$,

Z-Leu-Phe-CO-NH-$(CH_2)_2Ph$,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_4$-3-$OC_6H_4(3\text{-}CF_3)$,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_4(4\text{-}OCH_2Ph)$,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_4(4\text{-}OPh)$,

Z-Leu-Phe-CO-NH-CH_2-2-quinolinyl,

Z-Leu-Abu-CO-NH-$(CH_2)_2C_6H_4(3\text{-}OCH_3)$,

Z-Leu-Abu-CO-NH-$(CH_2)_2C_6H_4(4\text{-}OCH_3)$,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)$-1-$C_{10}H_7$,

Z-Leu-Phe-CO-NH-$(CH_2)_3$-4-morpholinyl,

Z-Leu-Abu-CO-NH-$(CH_2)_2C_6H_4(2\text{-}OCH_3)$,

Z-Leu-Abu-CO-NH-CH_2-2-quinolinyl,

Z-Leu-Abu-CO-NH-$(CH_2)_2$-2-(N-methylpyrrole),

Z-Leu-Phe-CO-NH-$CH_2CH(OH)C_6H_4$-3-$OC_6H_4(3\text{-}CF_3)$,

Z-Leu-Abu-CO-NH-$(CH_2)_2C_6H_5$,

Z-Leu-Phe-CO-NH-Et,

Z-Leu-Abu-CO-NH-$CH_2CH(OC_2H_5)_2$,

Z-Leu-Phe-CO-NH-$CH_2CH(OH)C_6H_4(4\text{-}OPh)$,

Z-Leu-Phe-CO-NH-$CH_2CH(OH)C_6H_4(4\text{-}OCH_2Ph)$,

Z-Leu-Abu-CO-NH-$CH_2C_6H_5$,

Z-Leu-Phe-CO-NH-$(CH_2)_2$NH-biotinyl,

Z-Leu-Phe-CO-NH-$(CH_2)_3$-2-tetrahydroisoquinolinyl,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_3(3,4\text{-}(OCH_2Ph)_2)$,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_4(4\text{-}OCH_3)$,

Z-Leu-Nva-CO-NH-$(CH_2)_3$-4-morpholinyl,

Z-Leu-Abu-CO-NH-CH_2-1-isoquinolinyl,

Z-Leu-Abu-CO-NH-Et,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_4$-3-$OC_6H_3(3,4\text{-}Cl_2)$,

Z-Leu-Abu-CO-NH-Me,

Z-Leu-Abu-CO-NH-$(CH_2)_3$-1-imidazolyl,

Z-Leu-Abu-CO-NH-$(CH_2)_2$-3-indolyl,

Z-Leu-Abu-CO-NH-$(CH_2)_3$-2-tetrahydroisoquinolinyl,

Z-Leu-Abu-CO-NH-CH_2-2-tetrahydrofuryl,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_4(4\text{-}N(CH_3)_2)$,

Z-Leu-Phe-CO-NH-*n*-Pr,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)$-2-$C_{10}H_7$,

Z-Leu-Phe-CO-NH-Me,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_4(3\text{-}CF_3)$,

Z-Leu-Abu-CO-NH-$(CH_2)_3$-1-tetrahydroquinolinyl,

Z-Leu-Abu-CO-NH-$(CH_2)_2C_6H_4(4\text{-}OH)$,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_2(3,4,5\text{-}(OCH_3)_3)$,

Z-Leu-Phe-CO-NH-$(CH_2)_3$-1-tetrahydroquinolinyl,

Z-Leu-Abu-CO-NH-$(CH_2)_2$-2-pyridyl,

Z-Leu-Abu-CO-NH-CH_2-$C_6H_7(1,3,3\text{-}(CH_3)_3\text{-}5\text{-}OH)$,

Z-Leu-Phe-CO-NH-$CH_2CH(OH)C_6H_4(3\text{-}CF_3)$,

Z-Leu-Phe-CO-NH-$CH_2CH(OH)C_6H_3(3,4\text{-}(OCH_2Ph)_2)$,

Z-Leu-Abu-CO-NH-$(CH_2)_5OH$,

Z-Leu-Abu-CO-NH-$CH_2CH(OCH_3)_2$,

Z-Leu-Phe-CO-NH-$CH_2CH(OH)C_6H_4$-3-$OC_6H_3(3,4\text{-}Cl_2)$,

Z-Leu-Phe-CO-NH-$CH_2CH(OH)C_6H_4(3\text{-}OPh)$,

Z-Leu-Phe-CO-NH-$CH_2CH(OH)C_6H_4(4\text{-}N(CH_3)_2)$,

Z-Leu-Abu-CO-NH-CH_2-2-pyridyl,

Z-Leu-Abu-CO-NH-$(CH_2)_2O(CH_2)_2OH$,

Z-Leu-Phe-CO-NH-CH_2-2-pyridyl,

Z-Leu-Abu-CO-NH-$(CH_2)_2$NH-biotinyl,

Z-Leu-Abu-CO-NH-CH_2-C_6H_{11},

Z-Leu-Phe-CO-NH-$CH_2CH(OH)C_6F_5$,

Z-Leu-Abu-CO-NH-CH_2-2-furyl,

Z-Leu-Abu-CO-NH-$(CH_2)_3C_6H_5$,

Z-Leu-Abu-CO-NH-$(CH_2)_2OH$,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)C_6H_4$(3-OPh),

Z-Leu-Abu-CO-NH-$(CH_2)_2$-4-morpholinyl,

Z-Leu-Abu-CO-NH-$CH_2CH(OH)Ph$,

Z-Leu-Abu-CO-NH-CH_2-4-pyridyl,

Z-Leu-Abu-CO-NH-$(CH_2)_3$-1-pyrrolidine-2-one,

Z-Leu-Phe-CO-NH-$CH_2CH(OH)Ph$,

Z-Leu-Abu-CO-NH-$CH_2C_6H_3$(3,5-$(OCH_3)_2$),

Z-Leu-Nva-CO-NH-$CH_2CH(OH)Ph$,

Z-Leu-Abu-CO-NH-CH_2-8-caffeinyl,

Z-Leu-Abu-CO-NH-*n*-Pr,

Z-Leu-Abu-CO-NH-CH_2-3-pyridyl, and

Z-Leu-Phe-CO-NH-CH_2Ph.

35. (New) The method of claim 33, wherein the compound is Z-Leu-Abu-CONH-$(CH_2)_3$-4-morpholinyl.

36. (New) The method of claim 33, wherein the axonal degeneration of the peripheral nervous system is chemically-induced axonal degeneration.

37. (New) The method of claim 33, wherein the compound is administered concurrently with an anti-hyperproliferative agent.

38. (New) The method of claim 33, wherein the compound is administered subsequent to administration of an anti-hyperproliferative agent.

39. (New) The method of claim 33, wherein the compound is administered orally.